

TONE UP AT THE TERMINALS

AN EXERCISE
AUTOMATED

GUIDE FOR HIGH-TECH
OFFICE WORKERS

By Fitness Personality

**DENISE
AUSTIN**

host of ESPN's
"Getting Fit with
Denise Austin"

Endorsed by the
American College
of Sports Medicine

**DENISE AUSTIN
FITNESS SYSTEMS, INC.**



INTRODUCTION

Numerous studies have shown conclusively that appropriate exercise improves the ability to relax, both immediately and over a sustained period. Findings indicate that a relaxed person works and thinks more efficiently. It has been noted that physical activity increases circulation through the body, and exercising helps all the brain cells receive the nutrients they need. Increased circulation through exercise can reduce or eliminate "nervous fatigue" as well as improve memory and cognition.

During a hectic day, your muscles store up tension. This tension can lead to back pain, stiff neck or tension headaches. If muscles are not given relief from tension by relaxation, exercises or change of activity, the muscle fibers physiologically "adapt" to the states of increased tension. The tension can be released by purposeful exercises.

The exercises illustrated in **TONE UP AT THE TERMINALS** can be done at your work station in a matter of minutes. No special skills or athletic abilities are required. For best results, supplement them with a balanced program of regular cardiovascular conditioning, muscular flexibility, strength training and sound nutrition.

THE AUTHOR



Exercise physiologist Denise Austin hosts and stars on her own weekday television exercise and life-style show, "Getting Fit with Denise Austin," aired on ESPN, the cable sports network. Since 1984 she has

been the resident fitness expert on NBC's "Today Show." She has appeared on hundreds of national and local TV shows including "Hour Magazine," "The Merv Griffin Show," and NBC TV News. She is regularly featured in national publications, and writes a column for the Washington Post. She has authored several booklets and audio cassettes on fitness, has a series of video tapes on exercise, and is the author of "Denise Austin's 1-minute Exercises," a book published by Random House. She also serves as a

consultant with the President's Council on Physical Fitness and Sports and the National Fitness Foundation. Her field of expertise is employee fitness, stress management, and exercise. She keeps current with all new technology in the field of ergonomics while conducting seminars, lectures and demonstrations for corporations and professional organizations world-wide.

HISTORY

In 1982, Verbatim Corporation sponsored a survey designed to determine workers' health concerns in regards to new technology in the workplace. It was concluded that elements in the working environment, such as work pressures and the amount of time spent working at VDTs, contributed to the physical and psychological strain felt by workers. As a result of the survey, the first edition of *Tone Up at the Terminals* was produced, designed and demonstrated by Denise. As the use of VDTs grew and more research was done in the area of employee health and fitness, the original program was modified and expanded.

The easy-to-do stretching exercises break up the day and increase concentration and performance for workers. Corporations using the program have reported improved productivity, fewer errors, reduced absenteeism, and fewer employee-reported back, neck and eye problems. Since inception more than 500,000 copies of the booklet have been distributed world-wide, and Denise Austin Fitness Systems has conducted the program for thousands of office workers.

The New York State Library continues to lead the nation's research library community in the adoption of technology to enhance services and improve operations. In this library of the future, computer services are part of virtually every aspect of operations and services. While technology increases productivity, computerization dramatically changes the workplace and increases concern in regard to office automation. A growing number of employees spend long hours at VDTs. In 1988, the State of New York issued a State policy on video display terminal ergonomics. New State guidelines mandate that State agencies provide for VDT operators a work environment that is comfortable and free from hazard. This specially prepared edition of *Tone Up at the Terminals* is targeted to this policy and set of guidelines, and especially to the office workers using VDTs.



WORK POSTURE

1. In defining proper work posture, the most important factor is you—the worker. The best position is one that is relaxed, natural and allows for ample movement. Ideally tables and chairs should be adjustable and keyboards detachable so that you are able to periodically move and change positions. Make sure you have sufficient space for your knees, which should be at a 90° angle, and your feet should be placed flat on the floor. Your forearms and hands need adequate support too.

EYESTRAIN TIPS

Proper working posture prevents muscle fatigue. Your eyes can become fatigued as well so take visual breaks to sooth your eyes. Relax your eyes by changing focus and looking away into the distance. Here are some more tips on how to ease eyestrain.

LOOK UP PERIODICALLY.

VARY YOUR ROUTINE.

WEAR PROPER COMPUTER EYEWEAR. ASK YOUR EYE DOCTOR.

DECREASE GLARE AND FLICKER.

BLINK FREQUENTLY.



WARM-UP EXERCISES

Shake: Loosen up by moving your neck, shoulders, arms, thighs, legs and feet. Promotes blood circulation through the body.

Deep Breathing: Close your eyes and direct your attention to the breathing process. Think of nothing but your breathing. Inhale deeply through the nose and exhale forcefully out the mouth. Repeat six times. Aids in relaxing and reducing tension.

Tensing the Muscles: Most people generally have very little awareness of the sensation of relaxation. Therefore, you must first produce tension sensations, then slowly release them. This will allow you to feel the difference internally between tension and relaxation.

NECK RELAXERS

2. **Neck:** Let your head drop slowly to the left, then to the right. Slowly drop your chin to your chest. Turn your head all the way to the left, return it to the normal position and then turn your head all the way to the right. Return to normal position. Stimulates the neck muscles to alleviate a stiff neck.

SHOULDER TENSION RELEASERS

3. Shoulder Stretch: Bring your right hand to your upper back from above. Bring your left hand to your upper back from below and try to hook fingers of your two hands. Repeat to the other side. Reduces tension and increases flexibility.

4. Shoulder Roll: Slowly roll your shoulders backward five times in a circular motion using your full range of movement. Then roll your shoulders forward. Releases nervous tension build-up in neck and shoulders.

5. Elbow Circles: Place your hands on your shoulders. Try to cross your elbows in front of you until you feel the stretch across your upper back. Bring your elbows down and then back in a circular motion until you have returned to starting position. Repeat three circles. Reduces muscle stiffness of the shoulders and upper back.

6. Middle-Upper Back Stretch: Hold your right arm just above the elbow with your left hand. Now gently pull your elbow toward your left shoulder as you feel the stretch. Hold stretch for 5 seconds. Do both sides. Stretches and relieves tension between the shoulder blades.



ARMS, WRISTS AND HANDS

7. Squeeze and Tone: Hold a tennis ball in your hand and squeeze the ball as hard as you can for 5 seconds. Release for 5 seconds and repeat. Then repeat with opposite hand. Tones the biceps and forearms.

8. Arm Press: Grasp your hands together in front of your chest with elbows out to the side. In your palms hold a tennis ball. Push your hands together as hard as you can, squeezing the tennis ball. Hold for 5 seconds and release. Repeat. Strengthens the arms and chest.

9. Wrist Flex: Extend your arms directly in front of your body. With your other hand, hyperextend your wrist to bend your hand so that the back of your hand is aiming to the top of your forearm. Repeat with opposite hand. Releases tension in your forearm, wrist and hand.

10. Finger Stretch: With fingertips together, spread your thumb and fingers as far apart as you can. Hold it for the count of five. Relax and repeat. Releases the tension build-up in your hands and fingers.



WAIST

11. Trimming the Waist: Touch your shoulders with your fingertips. Lift right knee and touch the left elbow to the right knee. Alternate sides repeatedly 5 times. Trims and tones the waistline.

12. Trunk Twists: Turn at your trunk. Turn your head in the direction of your trunk. Twist 3 times in each direction. Excellent for trimming the waistline and improving flexibility.

13. Windmill: Place your feet apart. Bend over and touch your right hand to your left foot with your left arm extended up. Alternate sides repeatedly. Trims your hips and waistline.

14. Waist Bend: Clasp your hands behind your head and press your elbows back as far as you can. Then bend to the right at the waist. Return to starting position. Then bend to the left. Repeat. Trims and stretches the sides of your waistline.

15. Tummy Tightener: Sit upright and grasp your chair bottom with both hands. With feet together and knees bent lift your feet about four inches off the floor. Hold for 10 seconds and relax. Repeat. Tones and tightens abdominal muscles.

11



12



13



15



14



BACK

16. Back Relaxer: Sit on chair. Drop your neck, shoulders and arms, then bend down between your knees, as far as you can. Return to upright position, straighten out and relax. Takes pressure off your lower back.

17. Stretch the Spine: Lean forward in your chair, feet slightly apart, arms stretched out in front of you. Elongate the spine for 5 seconds. Relax and repeat. Prevents pressure on the vertebrae.

18. Side Stretch: Interlace your fingers. Lift your arms up over your head keeping your elbows straight. Press your arms backwards as far as you can. Then slowly lean first to the left and then to the right until you can feel the stretch along the sides of your body. Stretches the muscles along the side of your body from your arm to your hips.

19. Knee Kiss: Sit on a chair. Pull one leg to your chest, grasp with both hands and hold for the count of five. Repeat with opposite leg. Good stretch for the hamstrings and relieves lower back pain.



LEGS, ANKLES AND FEET

20. Quadricep Stretch: Sit on the edge of your chair. With your leg to the side of your chair, hold your foot and pull up. Feel the stretch for 5 seconds and release. Repeat with opposite leg. Stretches the quadriceps and increases flexibility.

21. Leg Stretch: Sit upright. Extend your left leg in front of you and grasp your lower leg. Slowly bend down and try to touch your knee with your forehead. Repeat with opposite leg. Increases flexibility in the legs.



22. Bicycles: Sit upright and grasp your chair bottom with your hands. Lean back and lift your feet off the floor slightly. Point your toes and then move your legs in a "pedaling" fashion. Pedal for 10 seconds and relax. Firms the legs and increases circulation.



23. Strengthen the Quadriceps: Bring legs straight out in front of the body to hold an L-shape position. Hold for 5 seconds and make sure you are sitting up straight with good posture. Relax and repeat. Strengthens the quadriceps and abdominal muscles.



24. Ankle Flex: Extend your leg directly in front of your body. First point your toes out and then flex your ankle so that your toes are pointing up. Point and flex 10 times and then repeat with opposite leg. Strengthens and tones calves and increases flexibility.

25. Foot Massage: Remove your shoes. Roll a tennis ball back and forth under your foot. Repeat with opposite foot. Relieves tension and relaxes feet and ankles.



POSTURAL EXERCISES

26. Upper Body Stretch: Clasp both hands behind your back, keeping your elbows straight. Raise your arms up as high as you can. Relax and repeat. Releases tension in your back and improves posture.

27. Pectoral Stretch: Grasp your hands behind your neck and press your elbows back as far as you can. Hold for 5 seconds. Relax and repeat. Good stretch to do when you find yourself slouching. Stretches the front of your chest.

28. Reach—Full Body Stretch: Raise your arms over your head and reach up as high as you can. Stretch your rib cage and hold your stomach in. Then let your arms drop. Repeat twice. Stretches rib cage and helps posture.

These exercises were not designed for chairs with casters. If your chair has wheels, be sure that they are locked before beginning the exercises.

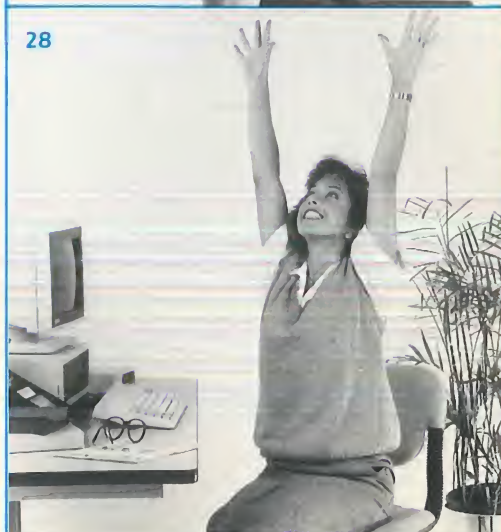
**NOW HUG YOURSELF.
YOU DESERVE IT!**



26



27



28

The New York State Library has served New Yorkers and State government for nearly 170 years. It is the principal reference library for State government, serves as a resource library and referral center in the New York State Interlibrary Loan network, and operates a regional Library for the Blind and Visually Handicapped. The collection, which totals over 5.5 million items, is particularly strong in law, medicine, social sciences, education, history (particularly American and New York State), certain pure sciences, technology, and Federal, State and international documents. Its information resources include books, periodicals, government documents, pamphlets, newspapers, microforms, special media materials for the blind and access to over 400 computerized databases. The Library is the largest state library in the nation and the only state library member of the Association of Research Libraries.

Denise Austin Fitness Systems provides a full range of fitness materials and programs for corporate fitness. The corporate program consists of personal appearances by either Denise or our trained staff, *Tone Up at the Terminals* in booklet form and on PC diskette, and a video tape which addresses office fitness and demonstrates the exercises. For more information contact Kevin R. Weaver, Denise Austin Fitness Systems, PO Box 319, Garrison, NY 10524, or call (914) 424-4265.

TIPS FOR PREGNANT WOMEN

The physical changes that occur throughout pregnancy require a work environment that can be adjusted to meet the needs of the computer terminal users. The following two areas should be given particular attention:

*The work station chair should be adjustable for five regions: height, lumbar, back angle, seat tilt, and back support height. Adjustments will be required periodically for greatest comfort.

*A footrest that is adjustable in height and angle will minimize back strain.

This special edition of **Tone Up at the Terminals** has been prepared as part of the State Library's multifaceted approach to providing information on ergonomics in the workplace. In addition, through comprehensive research including database technology, the State Library has identified the most current research related to VDT ergonomics and established an **ergonomics collection**, which consists of periodicals, studies and monographs related to this topic. A series of bibliographies is being generated, with the following now available:

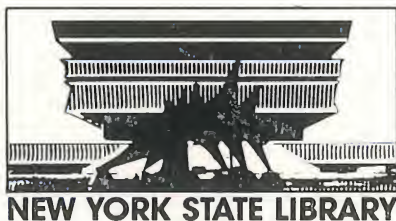
1. "VDT's and Health: Update." Compiled by Robert Allan Carter, New York State Library, Legislative and Governmental Services, Topic No. 91, 1988.

2. "Ergonomics." Compiled by Robert Allan Carter, New York State Library, Legislative and Governmental Services, Topic No. 92, 1988.

Single copies are available to New York State governmental agencies and members of the University of the State of New York free on request; price for others is \$1.00 per title by check payable to University of the State of New York in advance. Send checks and orders to the address on the bottom of this page.

For more information on the New York State Library's ergonomics collection, contact:

New York State Library
Attention: Ergonomics
Cultural Education Center
Albany, New York 12230
(518) 474-7646



Designed by Emilio Ambasz and Giancarlo Piretti for OPEN Ark, the Systems Chair used by Denise is one of a full range of Vertebra Chairs produced and distributed in the U.S. and Canada under exclusive license from OPEN Ark B.V. by Krueger, Inc.